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Fall 9-1-2000

PHYS 322.01: Optics I

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Physics 322 - Optics I

Fall Semester 2000

- LECTURES: Tu, Th 11:10am - 12:00pm
SC (Science Complex) Bldg. Rm 231
- INSTRUCTOR: Andrew Ware
Office: SC Bldg. Rm 120, (Tel. No. 243-6221)
Office Hours: To be announced.
- WEBSITE: <http://www.physics.umt.edu/phys322/>
- TEXTBOOK: Optics
by E. Hect, 3rd Ed. (Addison-Wesley, 1998)
- PREREQUISITE: Phys 222N and corequisite Math 251
- HOMEWORK: Problem assignments (about 1 assignment per week)
These will be collected and graded.
- LABS: There will be approximately 3 labs during the semester.
You will work in groups of two or three but each person will
turn in their own lab report.
- EXAMS: Two 50-minute exams
Around Th 10/5 and Tu 11/21

One 2-hour final exam (10:10am-12:10pm, MO 12/18)
* Comprehensive but weighted towards the material
presented after the last in class exam.
- GRADING:
- | | |
|-----------------|------------------|
| 50-minute exams | 30 % (15 % each) |
| Homework | 20 % |
| Labs | 25 % |
| Final exam | 25 % |

[This course can be taken for a traditional letter grade (A,B,C,D,F) only]

Physics 322 - Course Outline

<u>Week</u>	<u>Dates</u>	<u>Topics</u>	<u>Chapters</u>	<u>Exams</u>
1	9/5, 9/7	Introduction	1	
2	9/12, 9/14	Reflection, refraction, Fermat's law	4	
3	9/19, 9/21	Familiar aspects of light	4	
4	9/26, 9/28	Geometrical optics	5	
5	10/3, 10/5	Fiber optics, optical devices	5	No. 1 (10/5)
6	10/10, 10/12	Thick lenses	6	
7	10/17, 10/19	Matrix method, aberrations	6	
8	10/24, 10/26	Wave basics	2	
9	10/31, 11/2	More on waves	2	
10	11/7	Photons and light	3	
11	11/14, 11/16	EM theory	3	
12	11/21, 11/23	Propagation of electromagnetic waves	4	No. 2 (11/21)
13	11/28	Optical properties of metals	4	
14	12/5, 12/7	Superposition principle	7	
15	12/12, 12/14	More on superposition	7	
16	12/18	Final Exam Monday, 10:10am-12:10pm		

Mo 10/16 - Last day to add, drop or change sections.